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U N C L A S S I F I E D

PART II OF II

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SERIAL: [REDACTED]

/***** THIS IS A COMBINED MESSAGE *****/
BODY

SG1A

COUNTRY: CHINA (CH).

SUBJECT: [REDACTED] /DEFENSE, SCIENCE,
TECHNOLOGY, AND INDUSTRY REPORT,
16-31 OCT 92

WARNING: THIS IS AN INFORMATION REPORT, NOT FINALLY
EVALUATED INTELLIGENCE. REPORT IS
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DEPARTMENT OF DEFENSE

H. CSN PROFILES NUMBER 3 RESEARCH OFFICE UNDER
WUHAN SHIPPING DESIGN RI (30 OCT). THE OFFICE HAS
BEEN RESPONSIBLE FOR THE OVERALL RESEARCH AND DESIGN OF
SEVERAL MEDIUM SIZE PLA NAVY WARSHIPS. IT HAS
UNDERTAKEN THE DESIGN OF A NEW TYPE ENGINEERING VESSEL
AND THE DESIGN TASKS FOR THE MODERNIZATION AND
CONVERSION OF AN UI TYPE OF WARSHIP. THE TWO
REMODELLED VESSELS WERE DELIVERED TO USERS IN DEC 89
AND NOV 91 RESPECTIVELY. THE FIRST VESSEL IN A KEY
DESIGN PROJECT IT IS NOW UNDERTAKING ENTERED THE TESTS
AND SEA TRIALS STAGE RECENTLY. IN OVER 30 YEARS SINCE
THE RESEARCH OFFICE WAS FOUNDED, IT HAS WON 13 STATE
AND 13 MINISTERIAL S AND T PROGRESS AWARDS.

I. CSN PROFILES SICHUAN TRANSMISSION AND GEARBOX
EQUIPMENT RI (30 OCT). THE RI IS PRIMARILY
RESPONSIBLE FOR DEVELOPMENT OF NEW PRODUCTS AND
TECHNOLOGIES DERIVED FROM COMPUTER APPLICATIONS. IN
RECENT YEARS, IT HAS SUCCESSFULLY COMPLETED MORE THAN
20 R AND D PROJECTS PRODUCING TRANSMISSIONS AND
COMPONENTS FOR PLA NAVY AND ARMORED FORCE EQUIPMENT.
IT HAS ALSO DEVELOPED OVER 1,000 HIGH PRECISION GEAR
COMPONENTS AND LARGE TRANSMISSION DEVICES IN
FULFILLMENT OF A NUMBER OF KEY STATE R AND D PROJECTS.
THESE INCLUDE WORK FOR THE XICHANG SATELLITE LAUNCH
COMPLEX, THE BAOGANG STEEL FACTORY, THE JIUQUAN STEEL
FACTORY, AND THE YIZHENG PETROCHEMICAL PLANT.

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J. CSN PROFILES SHIPBUILDING RI UNDER SHANGHAI HUDONG SHIPYARD (30 OCT). THE RI IS THE SHIPYARD'S MAIN TECHNICAL DESIGN UNIT, AND HAS BEEN RESPONSIBLE FOR DESIGNING A 68,000 TON DOUBLE-BOTTOM, DOUBLE-HULLED OIL TANKER AND A 70,000 TON BULK FREIGHTER OF SIMILAR DESIGN. IT HAS COLLABORATED WITH OTHER ORGANIZATIONS IN DEVELOPING A "TRIPLE PURPOSE WORKING BARGE" CAPABLE OF CARRYING 2,700 STANDARD CONTAINERS WITH AN 8,400 HORSEPOWER ENGINE, AS WELL AS A 52,000 TON CRUDE OIL PROCESSING VESSEL. IT COMPLETELY DESIGNED THE FIRST FULLY SEALED FRIGATE FOR THE PLA NAVY, AND RECENTLY, WITH THE COOPERATION OF OTHER RI'S, COMPLETED DESIGN OF A NEW GENERATION OF NAVY FRIGATES.

K. CSN PROFILES UI RI UNDER THE JIANGSU LAISHENG ELECTRONIC EQUIPMENT FACTORY (30 OCT). IN RECENT YEARS, THE RI HAS DEVELOPED A NEW GENERATION OF DIGITIZED SONARS AND TWO TYPES OF DIGITIZED SOUND RAY TRACKING PLOTTERS FOR THE PLA NAVY. ITS NEWLY DEVELOPED ECHO SONAR EMPLOYS DIGITAL SIGNAL PROCESSING, AUTOMATIC FAULT DETECTION, AND MANY OTHER NEW TECHNOLOGIES. THE SONAR'S DESIGN RECENTLY PASSED TECHNICAL APPRAISAL BY EXPERTS FROM THE ELECTRONIC DIVISION OF THE PLA NAVY EQUIPMENT DEPT AND CSSC'S BUREAU OF MILITARY INDUSTRIES.

7. COMMUNICATIONS, COMMAND, AND CONTROL DEVELOPMENTS

A. GENERAL OFFICE OF STATE COUNCIL AWARDS EXCLUSIVE COMMUNICATIONS SYSTEM CONTRACT TO BEIJING CORP (HONG KONG WEN WEI PO - WWP, 18 OCT). THE BEIJING HUAXUN COMMUNICATIONS DEVELOPMENT CORP HAS WON THE CONTRACT TO BUILD A MOBILE COMMUNICATIONS SYSTEM EXCLUSIVELY FOR THE USE OF THE STATE COUNCIL. THE CONTRACT WITH HUAXUN, SIGNED ON 17 OCT, CALLS FOR THE IMPORT OF AN ADVANCED RADIO MASS COMMUNICATIONS EQUIPMENT SYSTEM AND THE SELECTION OF HIGH QUALITY AUXILIARY EQUIPMENT FROM AMONG DOMESTIC MANUFACTURERS.

B. COUNTY IN FUJIAN PROVINCE INSTALLS 6,000-GATE PROGRAM-CONTROLLED TELEPHONE SYSTEM (PD, 19 OCT). THE NEW SYSTEM RECENTLY WENT INTO FULL OPERATION IN DONGSHAN COUNTY //GEOCOORDS: 2342N/11725E//, WHICH IS THE HOME OF MANY OVERSEAS CHINESE WHO HAVE RETURNED TO CHINA. LOCAL PEOPLE WILL NOW BE ABLE TO MAKE DIRECT-DIAL TELEPHONE CALLS TO OVER 200 CITIES IN CHINA AND ABOUT 140 FOREIGN COUNTRIES.

C. GUANGDONG BUREAU OF MOBILE COMMUNICATIONS PLANS VAST EXPANSION OF PROVINCE'S MOBILE TELEPHONE CAPACITY (HONG KONG TA KUNG PAO - TKP, 22 OCT). BUREAU DIRECTOR ((LU)) ERRUI (STC 4151/1422/3843) HAS ANNOUNCED THAT

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THE PROVINCE WILL INVEST 800 MILLION YUAN DURING 1992 TO EXPAND THE COVERAGE AND CAPACITY OF ITS MOBILE TELEPHONE NETWORK. FOUR HUNDRED MILLION YUAN OF THIS MONEY WAS INVESTED DURING THE FIRST HALF OF THE YEAR TO UPGRADE TWO LARGE CAPACITY CENTRAL PROCESSING UNITS AND TO BUILD THREE NEW MOBILE EXCHANGES.

D. CHINA AND U.S. ATT CORP SET UP JV IN BEIJING TO MANUFACTURE "LIGHT-GUIDE EXPRESS ENTRY FIBER OPTIC CABLES" (CD, 23 OCT). ATT WILL PROVIDE 60 PERCENT OF THE USD 12.6 MILLION INVESTMENT REQUIRED TO SET UP THE CABLE PRODUCTION LINE. THE FACTORY WILL ENTER FULL PRODUCTION IN 1994, AND WILL BE ABLE TO PRODUCE UP TO 5,000 KM OF FIBER OPTIC CABLE ANNUALLY. THE CHINESE PARTNERS IN THE JV ARE THE BEIJING OPTICAL COMMUNICATIONS CO, THE BEIJING CABLE FACTORY, AND THE CHINA NATIONAL POSTS AND TELECOMMUNICATIONS (PT) INDUSTRY CO. THE 30 YEAR JV WILL EMPLOY THE U.S. CO'S LATEST PRODUCTION, EQUIPMENT, AND MATERIAL TECHNOLOGY. THIS IS ATT'S THIRD COMMUNICATIONS JV IN CHINA -- THE OTHER TWO ARE IN SHANGHAI.

E. FIRST SECTION OF HONG KONG-GUANGZHOU ULTRA HIGH SPEED OPTICAL CABLE NETWORK BEGINS OPERATION (WWP, 24 OCT). THE SECTION OF THE CABLE SYSTEM BETWEEN HONG KONG AND SHENZHEN SEZ WENT INTO OPERATION ON 23 OCT. THE NETWORK, WHICH WILL LINK ALL KEY CITIES IN THE PEARL RIVER DELTA, IS A JV BETWEEN THE GUANGDONG PT BUREAU AND HONG KONG TELECOM. THE NEW SECTION IS 56 KM LONG AND HAS A TRANSMISSION SPEED OF 565 MEGABITS PER FIBER OPTIC PAIR. THE CABLE HAS 12 OPTICAL FIBERS WITH A MAXIMUM CAPACITY OF 46,000 SIMULTANEOUS TELEPHONE CALLS.

F. PLA NAVY COMMUNICATIONS APPLICATIONS AND RESEARCH OFFICE DEVELOPS "MOBILE SHORT-WAVE DIGITAL RADIO COMMUNICATIONS SYSTEM" (LAD, 25 OCT; PD, 31 OCT). THE SYSTEM CONVERTS THE MONOLITHIC NATURE OF SHORT-WAVE COMMUNICATIONS AND IMPROVES ITS TIME-EFFECTIVENESS. THE SOFTWARE FOR THE SYSTEM WAS DEVELOPED BY ENGINEER ((SHAO)) XINHAI (STC 6730/6580/3189), WHO IS A MEMBER OF NORTH SEA FLEET UNIT NUMBER 37003. THE SYSTEM WAS RECENTLY DISPLAYED AT THE INTERNATIONAL PRODUCTS EXPOSITION IN QINGDAO.

G. CHINA WINS CONTRACT TO BUILD TWO SATELLITE GROUND STATIONS IN BURMA (CD, 25 OCT). CHINA RADIO AND TV INTERNATIONAL TECHNO-ECONOMIC COOPERATION CORP WON THE CONTRACT TO BUILD THE TWO STATIONS, WHICH MUST BE OPERATIONAL BY THE END OF 1993. THE CORP HAS ALREADY BUILT SIMILAR FACILITIES IN HONG KONG AND LAOS.

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IT RECENTLY ESTABLISHED A JV IN MALAYSIA TO BUILD MICROWAVE TRANSMISSION TOWERS.

H. CHINA'S LARGEST AND MOST SOPHISTICATED SATELLITE COMMUNICATIONS GROUND STATION BEGINS OPERATING IN BEIJING (WWP AND PD, 27 OCT). THE STATION IS LOCATED IN SHAHE, WHICH IS ABOUT 45 KM NORTHWEST OF BEIJING. THE NEW TRACKING, TELEMETERING, COMMAND, AND MONITORING STATION FEATURES A HIGH LEVEL OF AUTOMATION. IT IS ONE OF SIX COMPLEXES COMPOSING A GLOBAL SATELLITE NETWORK OPERATED BY THE INTERNATIONAL TELECOMMUNICATIONS SATELLITE ORGANIZATION.

8. NUCLEAR/ELECTRIC POWER INDUSTRY

A. HEILONGJIANG PROVINCE BEGINS CONSTRUCTION OF 18,000 KW XIANGSHAN HYDROPOWER STATION (HARBIN RADIO, 15 OCT). THE STATION IS LOCATED 72 KM NORTH OF HEIHE ON THE HEILONGJIANG RIVER. IT WILL REQUIRE AN INVESTMENT OF 87 MILLION YUAN AND WILL BE COMPLETED BY THE END OF 1995. WHEN IT ENTERS THE POWER GRID IT WILL HAVE AN ANNUAL OUTPUT OF 42 MILLION KW/HOURS.

B. MINISTRY OF ENERGY RESOURCES PLANS "HYDROELECTRIC STATION EQUIPMENT AND CONSTRUCTION EXPOSITION" IN JUN 93 (CD, 18 OCT). THE SHOW, WHICH WILL BE HELD IN THE BEIJING INTERNATIONAL EXHIBITION CENTER, WILL FEATURE HIGH TECH EQUIPMENT TO BE EMPLOYED TO BUILD THE THREE GORGES HYDROPOWER AND DAM PROJECT. THE EXHIBITION WILL ENCOURAGE INTERNATIONAL COOPERATION AND INVESTMENT IN THE MASSIVE DAM PROJECT. THE EXPOSITION WILL BE ACCOMPANIED BY AN INTERNATIONAL SYMPOSIUM ON THE THREE GORGES PROJECT, TO ADDRESS ITS OVERALL DESIGN, EQUIPMENT SELECTION, CONSTRUCTION TECHNOLOGY, AND MACHINERY. (SEE ALSO 1-15 APR 92 DSTI REPORT.)

C. HENAN POWER TRANSMISSION CO COMPLETES "500 KILOVOLT DOUBLE-CIRCUIT, HIGH TENSION CABLE" ACROSS YELLOW RIVER (PD, 21 OCT). THE CABLE STRETCHES OVER 4 KM ACROSS THE YELLOW RIVER NEAR THE MANGSHAN TOURIST CENTER IN ZHENGZHOU //GEOCOORDS: 3445N/11340E//. THE CABLE IS ONE OF THE MAIN ARTERIES FOR THE HENAN AND CENTRAL CHINA POWER NETWORK AND IS EMPLOYED TO TRANSMIT ELECTRIC POWER FROM NORTH TO SOUTH.

D. MORE THAN HALF OF PREPARATORY STEPS FOR SECOND STAGE CONSTRUCTION OF QINSHAN NUCLEAR POWER PLANT COMPLETED (WWP, 27 OCT). THE FEASIBILITY STUDY FOR THIS KEY 8TH FYP PROJECT WAS APPROVED BY THE SPC IN

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JULY 92. ENGINEERING TESTS, INITIAL DESIGN WORK, AND EQUIPMENT POSITIONING HAVE NOW BEEN COMPLETED. AGREEMENTS HAVE BEEN SIGNED WITH TWO UI FRENCH CO'S TO PROVIDE TECHNICAL ASSISTANCE IN THE CONSTRUCTION OF TWO 600,000 KW WATER PRESSURE REACTORS AT A SITE 2 KM SOUTH OF THE EXISTING 300,000 KW NUCLEAR REACTOR. EARTH AND STONE WORK FOR THE PROJECT WILL BEGIN IN EARLY 1993 AND THE PROJECT IS TO BE COMPLETED AND SUPPLYING POWER TO THE EAST CHINA GRID BEFORE THE YEAR 2000. (SEE ALSO 16-30 SEP 92 DSTI REPORT.)

E. ASIAN DEVELOPMENT BANK TO PROVIDE USD 50 MILLION LOAN FOR 1.2 MILLION KW NANSHA THERMAL POWER PLANT (CD, 27 OCT). THE GUANGDONG PROVINCE GOVERNMENT HAS SECURED THE LOAN TO HELP DEFRAY THE COST OF THE 2.1 BILLION YUAN NANSHA SEZ POWER STATION, LOCATED ABOUT 43 KM SOUTH OF GUANGZHOU. IN MAY 91, THE SPC APPROVED A JV BETWEEN THE HONG KONG NEW WORLD DEVELOPMENT CO AND THE GUANGZHOU ECONOMIC CONSTRUCTION DEVELOPMENT CO, EACH HOLDING 50 PERCENT EQUITY IN THE PROJECT. SECOND PHASE CONSTRUCTION OF THE PLANT IS TO BE COMPLETED BY THE END OF 1994.

9. MEDICAL SCIENCE

A. MINISTRY OF PUBLIC HEALTH (MPH) PLEDGES TO WIPE OUT POLIO IN CHINA BY 1995 DURING REGIONAL IMMUNIZATION MEETING (CD, 20 OCT). THE 5 DAY SESSION, SPONSORED BY THE WORLD HEALTH ORGANIZATION, WAS THE THIRD MEETING OF THE TECHNICAL ADVISORY GROUP FOR THE WESTERN PACIFIC REGION'S EXPANDED IMMUNIZATION PROGRAM. SIXTY-FIVE SPECIALISTS FROM EIGHT COUNTRIES ATTENDED THE MEETING TO CONSIDER PROPOSALS TO BULK PURCHASE POLIO VACCINES, WHICH COULD THEN BE PROCESSED LOCALLY AT GREATLY REDUCED COSTS. THE MINISTRY REPORTED THAT THE NUMBER OF CONFIRMED POLIO CASES IN CHINA HAD BEEN REDUCED FROM 5,089 IN 1990, TO 1,918 IN 1991. MPH THEREFORE PROJECTS THAT IT WILL BE ABLE TO ACHIEVE ITS SELF-IMPOSED DEADLINE OF 1995 FOR ERADICATING THE DISEASE IN CHINA.

B. TWO DOCTORS FROM PLA NUMBER 309 HOSPITAL SUCCESSFULLY REPLACE PATIENT'S ENTIRE THIGHBONE AND KNEE IN LANDMARK SURGERY (CD, 23 OCT). DOCTORS ((FAN)) YUSHAN AND ((JING)) HAI PERFORMED THIS UNIQUE SURGERY FOR THE FIRST TIME ON A HUNAN PROVINCE FARMER WITH BONE CANCER. THE ARTIFICIAL LIMBS WERE PROVIDED BY AN UI FACTORY ATTACHED TO MASI. THE PATIENT WAS ALREADY WALKING WELL ONLY 2 MONTHS AFTER HIS SURGERY.

C. ALL CHINA ASSOCIATION OF INTERNAL MEDICINE

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SPONSORS "TRADITIONAL MEDICINE CARDIOLOGY SEMINAR" IN BEIJING. THREE HUNDRED TOP CARDIOLOGY EXPERTS FROM CHINA AND OVERSEAS ATTENDED THE 3 DAY SEMINAR, WHICH BEGAN ON 22 OCT. MORE THAN 800 MEDICAL THESES WERE SUBMITTED TO THE SEMINAR, PRESENTING VARIOUS USES OF CHINESE TRADITIONAL MEDICINES IN DIAGNOSING, TREATING, AND CURING HEART DISEASE.

D. PLA FIRST UNIVERSITY OF MILITARY MEDICINE DEVELOPS "3-DIMENSIONAL ELECTRO-ENCEPHALOGRAPHIC CONTOURING SYSTEM" (PD, 23 OCT). THE SYSTEM EMPLOYS COMPUTER TECHNOLOGY TO EMULATE A 3-DIMENSIONAL DISPLAY MODEL OF THE HUMAN BRAIN, AND TO ANALYZE THE TIME AND FREQUENCY DOMAINS OF THE ELECTRO-CORTICAL POTENTIAL OF THE HUMAN BRAIN. THESE RESULTS ARE THEN GRAPHICALLY DISPLAYED ON A 3-DIMENSIONAL COLOR MODEL OF THE HUMAN BRAIN, FACILITATING DIAGNOSIS OF ENCEPHALOPATHY. THE NEW DEVELOPMENT HAS RECENTLY DISPLAYED AT THE BEIJING INTERNATIONAL INVENTIONS EXPOSITION.

E. PLA SECOND UNIVERSITY OF MILITARY MEDICINE AND U.S. ENTERPRISE GROUP SET UP MEDICAL JV IN SHANGHAI'S PUDONG ZONE (CD, 25 OCT). THE UNIVERSITY AND THE U.S. FIRM HAVE INVESTED USD 4 MILLION IN THE SHANGHAI KANGYING INDUSTRY AND TRADE CO, A JV WHICH WILL DEVELOP MILITARY MEDICINES FOR PRODUCTION AND MARKETING OVERSEAS.

F. EXPERTS FROM PLA NUMBER 301 HOSPITAL DEVELOP "NEUROMUSCULAR THERAPEUTIC EQUIPMENT" (PD, 30 NOV). THE INSTRUMENT HAS BEEN TESTED ON OVER 300 HEMIPLEGIC PATIENTS WITH CEREBROVASCULAR DISEASE, CEREBRAL EMBOLISMS, AND CEREBRAL INFARCTIONS, AND HAS PROVEN EFFECTIVE IN CURING SOFT TISSUE INJURIES AND ARTHROSIS. THE EQUIPMENT RECENTLY PASSED APPRAISAL TESTING AND HAS BEEN GRANTED A STATE PATENT. IT HAS NOW GONE INTO SERIAL PRODUCTION AT THE BOTOUISHI MEDICAL INSTRUMENT FACTORY IN HEBEI PROVINCE.

10. PLA SERVICES AND ARMS R AND D ACHIEVEMENTS

A. ARMY PAPER PRAISES ACADEMY OF MILITARY SCIENCES (AMS) NEW PATTERN FOR STUDY OF MODERN MILITARY SCIENCE (LAD, 4 OCT). AMS HAS FORMED A NEW CONTINGENT OF MILITARY SCIENCE RESEARCH PERSONNEL WITH HIGH ACADEMIC STANDING BY INTEGRATING THE WORK OF AMATEUR AND CAREER RESEARCHERS. NEW BRANCHES OF FRONTIER AND INTERDISCIPLINARY SCIENCES HAVE BEEN CREATED -- SUCH AS TROOP MANAGEMENT, MILITARY PSYCHOLOGY, AND MILITARY OPERATIONS RESEARCH. THESE HAVE BEEN ADDED TO THE EXISTING DISCIPLINES OF MILITARY THOUGHT, MILITARY STRATEGY, CAMPAIGN AND TACTICAL OPERATIONS, TROOP

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COMMAND, TROOP TRAINING, POLITICAL WORK, MILITARY LOGISTICS, MILITARY GEOGRAPHY, MILITARY HISTORY, AND THE MILITARY SYSTEM. AMS IS NOW DEALING WITH NUMEROUS COMPLICATED PROBLEMS CONFRONTING THE PLA AS A RESULT OF GREAT CHANGES IN THE WORLD'S STRATEGIC PATTERNS AND RAPID S AND T DEVELOPMENTS. AMS IS SERVING AS A "THINK TANK", "BRAINTRUST", AND "COMMAND DEPT" TO IMPROVE DEFENSE STRATEGIES, ARMY BUILDING, AND PREDICTIVE RESEARCH ON IMPORTANT ISSUES OF FUTURE WARFARE. THE ACADEMY IS "LOOKING TO THE FUTURE" IN APPLYING SUCH MODERN S AND T METHODS AS CYBERNETICS, SYSTEMATOLOGY, INFORMATION SCIENCE, MATHEMATICS, AND AUTOMATION IN ITS RESEARCH IN SIMULATED OPERATIONS, COMMAND AUTOMATION, MAN-MACHINE INTERFACE, AND MILITARY DATA BANKS. AMS HAS ALREADY ESTABLISHED OVER 1,000 STRATEGIC, CAMPAIGN, AND TACTICAL RESEARCH MODELS, SIMULATIONS SYSTEMS, AND SPECIAL MODELS TO AID IT IN ITS RESEARCH WORK.

B. UI AIR FORCE RI AND BEIJING FIRE BRIGADE DEVELOP "TURBOJET TAIL GAS/WATER MIST FIRE ENGINE" (LAD, 25 OCT). THIS HIGH EFFICIENCY FIRE-FIGHTING VEHICLE WAS DEVELOPED USING A DECOMMISSIONED TURBOJET ENGINE FROM A PLA AIR FORCE FIGHTER. DURING RECENT APPRAISAL TESTING, THE ENGINE EXTINGUISHED A BLAZING FIRE IN AN 80 SQUARE M OIL POOL IN UNDER 10 SECONDS. THE NEW SYSTEM WILL BRING ABOUT A SIGNIFICANT IMPROVEMENT IN CHINA'S FIRE-FIGHTING CAPABILITIES.

C. SHENYANG MR TRAINING SIMULATION EQUIPMENT RI TRANSFERS MILITARY LASER TECHNOLOGY TO ENTERTAINMENT INDUSTRY (LAD, 26 OCT). THE RI APPLIED ITS LASER SIMULATION TECHNOLOGY TO BUILD A HIGH TECH AMUSEMENT PARK CALLED "LASER GUNFIGHTER CITY" IN YINGKOU IN LIAONING PROVINCE. THE PARK WAS SO SUCCESSFUL THAT THE RI NOW HAS CONTRACTS TO BUILD SIMILAR PARKS IN SHENYANG, DALIAN, LUOYANG, AND CHENGDU, WHICH WILL EARN IT A PROFIT OF OVER 1.6 MILLION YUAN.

D. GLD HEALTH DEPT SETS UP RESEARCH FUND FOR MILITARY MEDICAL PERSONNEL RETURNING FROM STUDIES ABROAD (LAD, 27 OCT). MILITARY MEDICAL PERSONNEL UNDER 45 YEARS OF AGE, WHO HAVE STUDIED ABROAD FOR AT LEAST 6 MONTHS AND HAVE RETURNED TO CHINA FOR LESS THAN 1 YEAR, ARE ELIGIBLE TO APPLY FOR FINANCIAL SUPPORT FROM THE FUND WITH WHICH TO CARRY OUT SCIENTIFIC RESEARCH AND EXPERIMENTS. NINETEEN RETURNING STUDENTS HAVE ALREADY OBTAINED ASSISTANCE FROM THE FUND, WITH 13 OF THEIR RESEARCH PROJECTS IN THE HIGH TECH BIOLOGICAL FIELD.

E. GLD ORDNANCE RI SENIOR ENGINEER DEVELOPS "RADAR

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DEFECTS AUTOMATIC MONITORING DEVICE" (LAD, 29 OCT). ((ZHANG)) XINGYUAN (STC 1728/5281/0356) HAS DEVELOPED AN "ELECTRONIC DOCTOR" WHICH CAN AUTOMATICALLY MONITOR DEFECTS IN RADAR SYSTEMS, GIVE A WARNING ALARM, AND ISSUE APPROPRIATE GUIDANCE TO REPAIR THE DEFECT. THE DEVICE RECENTLY WON A STATE S AND T PROGRESS AWARD AND IS BEING INTRODUCED THROUGHOUT THE ARMY.

F. PLA AIR FORCE NUMBER 1 AERONAUTICS RI DEVELOPS HIGH TECH EQUIPMENT FOR LATEST COMBAT AIRCRAFT (LAD, 30 OCT). THE RI'S LATEST DEVELOPMENT IS THE BASIC PROTOTYPE OF A NEW "LASER RANGEFINDER" FOR A SPECIAL AIRCRAFT. IT HAS ALSO DEVELOPED A "SPECIAL RADAR INTERFACE" AND AN ACCOMPANYING "INTERFERENCE PRODUCING UNIT", WHICH ADAPTS ADVANCED FOREIGN TECHNOLOGY TO GREATLY IMPROVE THE CONCEALABILITY OF PLA AIR FORCE COMBAT AIRCRAFT IN A FUTURE WAR. THE RI IS CREDITED WITH DEVELOPING A SERIES OF LASER FIRING SIMULATORS FOR A VARIETY OF AIR FORCE AIRCRAFT, WHICH HAVE EFFECTIVELY IMPROVED AIRCRAFT TRAINING THROUGHOUT THE AIR FORCE. OVER THE PAST 5 YEARS, THE RI HAS COMPLETED 58 AWARD WINNING PROJECTS, 85 PERCENT OF WHICH HAVE BEEN SUCCESSFULLY APPLIED, AND 60 PERCENT OF WHICH HAVE BEEN ADDED TO THE AIR FORCE'S EQUIPMENT INVENTORY.

11. DEFENSE CONFERENCES AND EXHIBITIONS

A. MINISTRY OF FOREIGN ECONOMIC RELATIONS AND TRADE (MOFERT) PLANS HIGH TECH EXHIBITION AT START OF 1993 (CD, 24 OCT). MOFERT PLANS AN EXHIBITION OF STATE-OF-THE-ART DOMESTIC PRODUCTS AND TECHNOLOGY FROM 30 DEC 92 TO 5 JAN 93 IN THE PLA MUSEUM IN BEIJING. PRODUCTS WILL BE SHOWN WHICH MOFERT BELIEVES ARE INTERNATIONALLY COMPETITIVE AND DEMONSTRATE THAT CHINA IS READY TO ENTER THE GENERAL AGREEMENT ON TARIFF AND TRADE (GATT). MOFERT ALSO PLANS A SEMINAR IN CONJUNCTION WITH THE EXHIBITION TO EXPLAIN CHINA'S PLANS FOR ENTRY INTO GATT, AND ITS POTENTIAL IMPACT ON DOMESTIC INDUSTRIES AND BUSINESSES.

B. CHINESE ACADEMY OF SCIENCE (CAS) HOSTS VISIT OF RUSSIAN ACADEMY OF SCIENCE (HAS) DELEGATION TO CHINA (CD, 26 OCT). CAS PRESIDENT ((ZHOU)) GUANGZHAO HELD TALKS WITH HIS HAS COUNTERPART, LURII ((OSIPOV)), IN BEIJING ON 24 OCT. THE TWO PRESIDENTS PLEDGED TO EXPAND S AND T EXCHANGES AND COOPERATION BETWEEN THE TWO COUNTRIES.

C. COSTIND PRESENTS RESULTS OF "HUMAN PARANORMAL CAPABILITIES STUDY" AT "SOMATIC SCIENCE CONVENTION" (TKP, 28 OCT). OVER 60 RESEARCH PAPERS AND

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ACHIEVEMENTS WERE PRESENTED AT THE CONFERENCE, WHICH ENDED IN BEIJING ON 27 OCT. MORE THAN 200 SCHOLARS AND REPRESENTATIVES FROM SSTC, COSTIND, MPH, THE U.S. AND JAPAN ATTENDED WHAT HAS BILLED AS THE "SECOND CHINA CONVENTION AND THIRD SEMINAR ON SOMATIC SCIENCE". ((ZHANG)) ZHENHUA (STC 1728/7201/1403), CHAIRMAN OF THE CHINA SOMATIC SCIENCE SOCIETY, TOLD ATTENDEES THAT CHINA HAS MADE GRATIFYING PROGRESS IN DETERMINING THE ACCURACY OF STUDIES ON HUMAN PARANORMAL CAPABILITIES AND THEIR APPLICATIONS. CURRENTLY, THE CHINA SOMATICS SCIENCE RI AND THE SOMATIC SCIENCE RESEARCH CENTER ARE UNDERTAKING A NUMBER OF RESEARCH PROJECTS AT THE STATE, PROVINCIAL, AND MUNICIPAL LEVELS.

D. CHINA NATIONAL DEFENSE S AND T INFORMATION CENTER TO SPONSOR "NATIONAL MEETING ON TRANSFER OF MILITARY TECHNOLOGY TO CIVILIAN USE" (LAD, 30 OCT). THE MEETING WILL BE HELD IN BAODING, SOUTH OF BEIJING IN HEBEI PROVINCE, ON 15 NOV. THE SESSION WILL INTRODUCE MORE THAN 50,000 NEW HIGH MILITARY TECHNOLOGY ACHIEVEMENTS FROM SEVERAL HUNDRED SCIENTIFIC RESEARCH ORGANIZATIONS AND INSTITUTIONS OF HIGHER LEARNING THAT MUST BE TRANSFERRED TO CIVILIAN USE.

COMMENTS: 1. (SOURCE COMMENTS) GLD'S XINXING CORP HAS FOLLOWED COSTIND IN EXPLOITING HONG KONG'S INTERNATIONAL CONNECTIONS. THE 1-15 OCT 92 DSTI REPORT INDICATED THAT COSTIND WAS EXPANDING ITS CONCEPT OF "WINDOW ENTERPRISES", WHICH IT HAD BEEN SETTING UP IN THE SHENZHEN SEZ FOR THE PAST 10 YEARS, INTO HONG KONG. "WINDOW ENTERPRISES" GENERALLY ARE SINO-FOREIGN JV FACTORIES, WHICH PRODUCE HIGH TECH CIVILIAN GOODS FOR MARKETING OVERSEAS. COSTIND MAINTAINS IT HAS HAD CONSIDERABLE SUCCESS INDUCING FOREIGN COMPANIES TO INVEST FUNDS AND THE LATEST TECHNOLOGY IN SUCH OPERATIONS AND NOW HOPES TO FURTHER EXPAND ITS NETWORK INTO HONG KONG, ALTHOUGH THE TERRITORY DOES NOT REVERT TO CHINA UNTIL 1997. NOW, GLD'S MARKETING ARM, XINXING, HAS SIGNED AN AGREEMENT WITH HONG KONG'S MOST SUCCESSFUL ENTREPRENEUR, ((LI)) KASHING, UNDER WHICH HIS FLAGSHIP, CHEUNG KONG HOLDINGS, WILL ATTEMPT TO EXPLOIT THE TECHNOLOGY AND PRODUCTION OF GLD FACTORIES (PARA 3A). CHINA'S DEFENSE INDUSTRIES ARE ANXIOUS TO CONVERT AS MUCH OF THEIR MILITARY PRODUCTION CAPACITY AS POSSIBLE TO CIVILIAN GOODS BEFORE THE END OF THE CENTURY TO MEET NATIONAL ECONOMIC GOALS. THEY ARE ALSO NOT AVERSE TO OBTAINING COLLATERAL FOREIGN TECHNOLOGY PROVIDED BY OVERSEAS FIRMS INVOLVED IN SINO-FOREIGN JVS, WHICH MAY ALSO BE USED TO ENHANCE PLA MILITARY EQUIPMENT DEVELOPMENT.

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2. CHINA SHIP NEWS PROFILED FIVE KEY NAVAL ENGINEERING CENTERS RESPONSIBLE FOR RECENT DEVELOPMENTS IN CHINESE WARSHIPS IN ITS 30 OCT EDITION. MOST OF THE CENTERS ARE IN THE GREATER SHANGHAI AREA, AS IT IS AT THE SHANGHAI SHIPYARDS THAT MOST PLA NAVY WARSHIPS ARE BUILT. THE JIANGSU AUTOMATION RI HAS APPARENTLY DESIGNED THE UNMANNED ENGINE ROOMS AND COMPLEX COMMAND SYSTEMS FOR THE NAVY'S NEWEST FRIGATES (PARA 6G). THE SHIPBUILDING RI UNDER THE HUDONG SHIPYARD, WHERE THE NEW FRIGATES ARE BUILT, DESIGNED THE OVER-PRESSURE SYSTEMS ON THE FRIGATES, WHICH THE NAVY CLAIMS ARE "FULLY SEALED" AGAINST CHEMICAL OR NUCLEAR ATTACK (PARA 6J). THE WUHAN SHIPPING DESIGN RI SEEMS TO BE A KEY PLAYER IN EFFORTS TO UPGRADE SOME OF THE NAVY'S EXISTING MEDIUM SIZE WARSHIPS (PARA 6H). THE SICHUAN RI, RESPONSIBLE FOR BUILDING LARGE TRANSMISSION AND GEAR SYSTEMS, HAS APPARENTLY CONTRIBUTED TO DESIGN OF PROPULSION SYSTEMS FOR THE NAVY AND FOR ARMORED VEHICLES FOR THE GROUND FORCES (PARA 6I). FINALLY, THE JIANGSU ELECTRONICS FACTORY HAS BEEN INVOLVED IN DEVELOPING SONAR EQUIPMENT FOR THE NAVY (PARA 6K).

3. AN AIR FORCE RI IN BEIJING HAS APPARENTLY EXPLOITED THE PROPELLING FORCE OF A JET ENGINE TO DEVELOP A VERY SPECIAL FIRE TRUCK FOR EXTINGUISHING PETROLEUM FIRES, WHICH DO NOT RESPOND TO NORMAL FIRE-FIGHTING EQUIPMENT AND TECHNIQUES (PARA 6L). THE RI SAVED FUNDS BY DEVELOPING THE SYSTEM USING AN OBSOLETE JET ENGINE FROM A DECOMMISSIONED AIR FORCE FIGHTER. THE SOVIET ARMY DEVELOPED A CHEMICAL AGENT DECONTAMINATION SPRAY TRUCK IN THE 1960S USING THE SAME TYPE OF ENGINE. THE TECHNIQUE FOR THE FIRE-FIGHTING ENGINE IS PROBABLY SIMILAR TO THE ONES USED BY CHINA'S ANTI-CHEMICAL WARFARE UNITS.

4. MOFERT IS PLANNING AN EARLY JAN 93 EXHIBITION TO POPULARIZE CHINA'S LATEST HIGH TECH DEVELOPMENTS IN THE CIVILIAN PRODUCTS LINE (PARA 6M). THE SHOW HAS OSTENSIBLY BEEN SET UP TO SHOW THE WORLD THAT CHINA IS NOT SUCH A BACKWARD THIRD WORLD COUNTRY AND IS READY FOR ENTRY INTO GATT. THE FACT THAT THE SHOW WILL BE IN THE PLA MUSEUM SUGGESTS THAT MANY OF THE GOODS ON DISPLAY WILL HAVE BEEN PRODUCED BY DEFENSE INDUSTRIES. THE EXHIBITION IS CLEARLY FOR THE BENEFIT OF FOREIGN LEADERS; HOWEVER, A CONCURRENT SEMINAR ON THE IMPACT OF GATT ENTRY ON CHINA'S ENTERPRISES AND BUSINESSES IS PRIMARILY FOR DOMESTIC CONSUMPTION. LARGE SEGMENTS OF CHINA'S HUGE STATE-OWNED INDUSTRIAL SECTOR HAVE EXPRESSED GRAVE CONCERNS ABOUT THEIR VIABILITY IF CHINA COMPLIES WITH GATT FREE TRADE REQUIREMENTS. MMBEI IN PARTICULAR, WHICH CONTROLS THE LARGEST SEGMENT OF

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STATE-OWNED FACTORIES, IS PUSHING FOR SPECIAL TARIFFS AND QUOTAS TO PROTECT ITS LOSS-MAKING FIRMS FROM FOREIGN COMPETITION (SEE 1-15 OCT 92 DSTI REPORT). PRELIMINARY INDICATIONS FROM THE STATE COUNCIL ARE THAT THESE INDUSTRIES SHOULD NOT ANTICIPATE SUCH PROTECTION AND MUST MAKE EFFORTS TO BUILD PRODUCTS THAT ARE COMPETITIVE ON INTERNATIONAL MARKETS.

5. (FIELD COMMENTS) A NORTH SEA FLEET UNIT HAS IDENTIFIED WITH MUCD 37003 (PARA 7F).

6. DIA MESSAGE 160013Z DEC 92 IN AN UNCLASSIFIED PARAGRAPH DISCUSSES CHINESE PLANS TO BUILD A 600-MW "POOR MAN'S" NUCLEAR REACTOR. KNOWN AS AN ADVANCED PRESSURIZED-WATER REACTOR, IT WAS REPORTED THAT IT MIGHT BE DEVELOPED IN COLLABORATION WITH A U.S. FIRM. WEN WEI PO REPORTS, HOWEVER, THAT TWO FRENCH COMPANIES HAVE SIGNED AGREEMENTS WITH THE PRC TO PROVIDE TECHNICAL ASSISTANCE IN CONSTRUCTING TWO 600-MW WATERPRESSURE REACTORS IN THE VICINITY OF THE QINSHAN NUCLEAR POWER PLANT (PARA 8D).

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